



CAR Standard for Communication of Diagnostic Imaging Findings

The standards of the Canadian Association of Radiologists (CAR) are not rules, but are guidelines that attempt to define principles of practice that should generally produce radiological care. The physician and medical physicist may modify an existing standard as determined by the individual patient and available resources. Adherence to CAR standards will not assure a successful outcome in every situation. The standards should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed to obtaining the same results. The standards are not intended to establish a legal standard of care or conduct, and deviation from a standard does not, in and of itself, indicate or imply that such medical practice is below an acceptable level of care. The ultimate judgment regarding the propriety of any specific procedure or course of conduct must be made by the physician and medical physicist in light of all circumstances presented by the individual situation.

Approved: September 25, 2010

***This standard is partly based on the ACR practice guidelines which we acknowledge.
Gregory Butler, Chair; Reza Forghani, Mehran Midia, and Shia Salem***

Table of Contents

I.	INTRODUCTION.....	3
II.	THE DIAGNOSTIC IMAGING FINAL WRITTEN REPORT	3
1.	Demographics	4
2.	Body of the report.....	5
3.	Assessment and recommendations.....	5
4.	Standardized computer-generated template reports	6
III.	PRELIMINARY REPORT	6
IV.	VERBAL OR OTHER DIRECT COMMUNICATION	6
V.	INFORMAL COMMUNICATION	7

I. INTRODUCTION

Communication is a critical component of the art and science of medicine and is especially important in Diagnostic Imaging. It is incumbent upon radiologists and the departments in which they work to ensure that the results of diagnostic studies are communicated promptly and accurately in order to optimize patient care. Prompt and effective communication of diagnostic imaging reports is increasingly expected by the referring clinical services, and can improve patient care.

The final product of any consultation is the submission of a report on the results of the consultation. In addition, the radiologist and the referring physician have many opportunities to communicate directly with each other during the course of a patient's case management. Such communication is encouraged because it leads to more effective and appropriate utilization of Diagnostic Imaging services and it can enhance the diagnostic yield of the study in question. From a utilization standpoint, discussions with the referring team will help to focus attention on such concerns as radiation exposure, appropriate imaging studies, clinical efficacy, and cost-effective examinations. The provision of a well-defined clinical question and the overall clinical context can improve interpretation of complex cases and may enable the radiologist to streamline the diagnostic impression into a few likely and relevant differential considerations rather than providing a textbook list of possible differential diagnoses that may be of less utility and of less impact. These principles apply to all imaging consultations irrespective of the technology used including teleradiology and PACS. The ideal radiology report is clear, concise, and offers either a radiologist opinion, or an explanation of limitations and suggestions for other diagnostic testing, when necessary.

It is important to emphasize that proper communication is not solely the responsibility of the radiologist. It is incumbent on the clinical service to perform a thorough clinical evaluation before requesting an imaging test and to communicate the relevant clinical data to the radiologist. This will enhance the diagnostic yield of a study, will result in optimal use of imaging resources, and lead to an overall improvement in patient care. The radiologist in turn should ensure that the results are communicated accurately and in a timely fashion in order to optimize patient management. The CAR supports radiologists who insist on clinical data with each consultation request.

All communication should be performed in a manner that respects patient confidentiality. Medical images and reports constitute confidential patient information and must be treated accordingly. It is incumbent upon department managers and all imaging personnel including radiologists to ensure patient privacy. This includes institution of appropriate privacy procedures, and appropriate departmental regulation of procedures for release of images or reports from medical images to third parties.

II. THE DIAGNOSTIC IMAGING FINAL WRITTEN REPORT

- a. The final report is considered to be the definitive means of communicating to the referring physician or other healthcare professional the results of an imaging examination or procedure. Additional methods of communication of results are necessary in certain situations.
- b. The final report should be transmitted to the referring physician or healthcare professional who is responsible for the clinical follow-up. The referring physician or other relevant healthcare professional also shares in the responsibility of obtaining the results of imaging studies he or she has ordered.
- c. The timeliness of reporting any imaging examination varies with the nature and urgency of the clinical problem. The written final report should be made available in a clinically appropriate, timely manner.
- d. The final report should be proofread carefully to avoid typographical errors, accidentally deleted words, and confusing or conflicting statements, and should be authenticated by the reporting radiologist, whenever possible.
- e. Electronic and rubber-stamp signature devices, instead of a written signature, are acceptable if access to them is secure. In any case, the name of the dictating radiologist must appear as such on the report.

- f. Should the radiologist signing the report differ from the radiologist who dictated the report, this should be clearly indicated. Whenever possible, the dictating radiologist should sign his/her own reports. Proxy signing is less desirable, should be done only by another radiologist, and only in circumstances when the dictating radiologist is not available.
- g. Likewise, if there was a significant discrepancy between the preliminary report and the final report, this should be documented and the referring physician notified of the change in cases where the change may alter immediate patient management.
- h. Voice recognition systems are widely employed to facilitate timely reporting. These systems are not foolproof and methods should be in place to allow detection and correction of program generated errors.
- i. Final reports may be transmitted by paper, fax, and email, provided appropriate security measures are in place. Departments should seriously consider instituting “read receipt” mechanisms to identify any report that has not been picked up by the referring physician.
- j. A copy of the final report should be archived by the imaging facility as part of the patient’s medical record (paper or electronic) and be retrievable for future reference. Retention of these records should be in accordance with provincial regulations and facility policies.

An official written final interpretation shall be performed on all imaging examinations and procedures and should include the following.

1. Demographics

The report should include the following items:

- A. Name of patient and another identifier, such as gender, birth date, pertinent ID number or hospital or office identification number.
- B. The facility or location where the study was performed.
- C. Name of referring (attending) physician (s).
- D. Name of most responsible physician for patients cared for by multiple clinical services.

Rationale: To provide more accurate routing of the report to one or more locations specified by the referring physician (hospital, office, clinic, etc.). Each office or department should develop a policy to ensure proper distribution of the written report to the hospital chart and referring physician(s) for all in-patients and the referring physician(s) for all out-patients.

- E. Name or type of examination.
- F. Date of examination
Whenever possible, the month should be spelled rather than risking the ambiguity of US and international formats (e.g. 03 July 2010 rather than 03/07/10 or 07/03/10).
- G. Time of the examination, if relevant
Rationale: To identify multiple examinations (e.g. for ICU-CCU patients) that may be performed on a single day.
- H. Date of dictation
Rationale: Quality control

2. Body of the report

The effective transmission of imaging information from the radiologist to the referring physician constitutes the main purpose of the report. The report should be clear and concise. Normal or unequivocally positive reports can be short and precise.

Whenever indicated, the report should include:

A. Procedures and materials:

A description of the examinations and/or procedures performed and any contrast media (including agent, concentration, volume and route of administration, when applicable), medications, catheters, or devices, if not reported elsewhere. Any known significant patient reaction or complication should be recorded.

Rationale: To ensure accurate communication and availability of the information for future reference.

B. Limitations:

Where appropriate, identify factors that can limit the sensitivity and specificity of the examination. Such factors might include technical factors, patient anatomy (e.g. dense breast pattern), and limitations of the technique (e.g. the low sensitivity of a chest X-Ray for pulmonary embolism).

C. Findings:

Use precise anatomical, radiological and pathological terminology to describe the findings accurately.

Abbreviations should be avoided to avoid ambiguity and risk of miscommunication, unless initially spelled out.

D. Clinical issues:

The clinical history, indication or clinical question may be inserted at the beginning of the report. While not mandatory, this practice is encouraged.

The report should address or answer any pertinent clinical issues raised in the request for the imaging examination. If there are factors that prevent answering the clinical question, these should be stated.

Comment: For example, to rule out pneumothorax, state "there is no evidence of pneumothorax" or to rule out fracture, state "there is no evidence of a fracture." It is not appropriate to use universal disclaimers such as "the mammography examination does not exclude the possibility of cancer" as it is expected that the referring team understands that even a well performed diagnostic exam does not necessarily have a 100% sensitivity.

Descriptive reporting that offers no opinion, or guidance for resolution of the clinical question should generally be avoided.

E. Comparative data:

Comparison with previous examinations and reports, when possible, are part of an imaging consultation and report, and should be included in the body of the report and/or conclusion section when appropriate.

3. Assessment and recommendations

- A. The report should conclude with an interpretive commentary on the data described. The proper terminology for ending the report may include the following terms: conclusion, impression, interpretation, opinion, diagnosis or reading.
- B. Each examination should contain such an interpretive commentary. Exceptions can be made when the study is being compared with other recent studies and no changes have occurred during the interval or the body of the report is very brief and a separate conclusion would be a redundant repetition of the body of the report.
- C. Give a precise diagnosis whenever possible.
- D. Give a differential diagnosis when appropriate.
- E. Recommend follow-up and/or additional diagnostic imaging studies to clarify or confirm the conclusion, only when appropriate.
- F. Any significant patient reaction should be reported.

4. Standardized computer-generated template reports

Standardized computer-generated template reports (or other structured report formats) that satisfy the above criteria are considered to conform to these standards.

III. PRELIMINARY REPORT

A preliminary report may precede the final report in certain circumstances and contains limited information relevant to immediate patient management. It may be time sensitive and should not be expected to contain all the imaging findings. It should be generated when a timely communication is necessary, as in most cases referred from the emergency department, or in unexpected elective cases where clinical urgency mandates immediate communication of the results. It is acknowledged that not all serious findings require a preliminary report if they are already known or could have been reasonably expected by the referring physician (e.g. bowel cancer on a barium enema) as long as the final report is generated in a timely manner.

A preliminary report may not have the benefit of prior imaging studies and/or reports and may be based upon incomplete information due to evolving clinical circumstances which may compromise its accuracy. Preliminary reports may be communicated verbally, in writing or electronically and this communication should be documented. Preliminary communications should be reproduced into a permanent format as soon as practical and appropriately labelled as a preliminary report, distinct from the final report.

IV. VERBAL OR OTHER DIRECT COMMUNICATION

Radiologists should attempt to co-ordinate their efforts with those of the referring physician in order to best serve the patient's well-being. In some circumstances, such co-ordination may require direct communication of unusual, unexpected or urgent findings to the referring physician in advance of the formal written report. These include:

- A. The detection of conditions carrying the risk of acute morbidity and/or mortality which may require immediate case management decisions.
- B. The detection of disease sufficiently serious that it may require prompt notification of the patient, clinical evaluation or initiation of treatment.
- C. Detection of life or limb threatening abnormalities which might not have been anticipated by the referring physician.
- D. Any clinically significant discrepancy between an emergency or preliminary report and the final written report should be promptly reconciled by direct communication to the referring physician or his or her representative.

In these circumstances, the radiologist, or his or her representative, should attempt to communicate directly (in person or by telephone) with the referring physician or his or her representative. Alternative methods including fax, text messaging or email (if not already in place) could be used for these purposes if there is a way of verifying receipt of the report. The timeliness of direct communication should be based upon the immediacy of the clinical situation.

Documentation of actual or attempted direct communication may be a desirable departmental policy.

It is incumbent upon referring physicians to make available a way of communicating results to an alternative provider in circumstances such as holiday, sickness or restricted office hours.

V. INFORMAL COMMUNICATION

Occasionally, a radiologist may be asked to give an opinion that does not result in a formal report but may be used to make treatment decisions. Examples include a so-called “curbside consultation” or a quick review of an outside examination.

These opinions may be given without adequate patient history or comparison studies, and often occur in suboptimal viewing conditions.

Informal communication carries inherent risk and often the clinician’s documentation of the informal communication is the only written record of the informal communication. Radiologists who provide these types of consultations with the intent of improving patient care should document their interpretation and note the circumstances under which they were given. If feasible a system for reporting of outside studies should be implemented.